CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 94-181
UPDATED WASTE DISCHARGE REQUIREMENT FOR:

WESTPORT INVESTMENTS
(PEERY/ARRILLAGA)
PARKWOOD 101/Westport Landfill
REDWOOD CITY, SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. Westport Investments Inc. is the site's legal owner hereinafter referred to as the discharger. The site is located adjacent to Belmont Slough in Redwood City as shown in Figure 1, which is incorporated herein as a part of this Order. No waste has been disposed of at the site since 1970, and the site is considered a closed site.

PURPOSE OF UPDATING ORDER:

2. The primary objectives of this order are to revise the site's groundwater and leachate monitoring program, and to bring the site into compliance with the current regulations of Article 5, Title 23, Division 3, Chapter 15 of the California Code of Regulations. Additionally, this Order requires the discharger to reconstruct those portions of the landfill which do not meet the requirements of Section 2581, Article 8, of Chapter 15.

SITE DESCRIPTION:

3. The site is located approximately one mile east of Highway 101, and it is bordered by Belmont Slough to the north and west, and by an existing residential development and Marine World Parkway to the east and south. The site is divided into three areas. Two of these areas, the mound (35 acres) and panhandle (10 acres) areas, are associated with refuse fill and currently have a cap (with a varying thickness) overlying them. The third area (40 acres), between the refuse fill areas and the levees, is a low-lying area that does not contain refuse. The site's surface soils are currently composed largely of fill that has been used to establish a cap over the refuse fill area, or used to fill the low-lying elevations.

SITE HISTORY:

4. The site was a tidal marshlands until approximately 1910, at which time the area was diked and used for pasture lands. The area was used as a refuse disposal site from 1948 to about 1970. Disposal in the panhandle area of the site reportedly ceased in about 1963, while disposal in the mound area continued until 1970 (Levin-Fricke, 1989a). The site has been closed in accordance with the Board's Order No. 76-77 dated October 18, 1977. Closure involved placement of low permeability soils, Bay Mud clays and construction fill, over the top of the refuse.

5. On July 20, 1976 Waste Discharge Requirements (WDRs) Order No. 76-77 was adopted for the site. On October 18, 1977 Order NO. 76-77 was revised by the adoption of Order NO. 77-134.

6. On March 2, 1994 United Soil Engineering, Inc.,(USC), conducted an investigation to determine the thickness of the landfill's cover. A total of 77 borings were advanced to a depth of 6 feet. USC's investigation revealed that an additional one to two feet of clay or low permeability soils are required to achieve a minimum thickness for most part of the landfill's cover. [Note: Section 2581 of Article 8 requires two feet of appropriate materials as a foundation layer for the final cover, one foot of soil with a permeability of $\leq 10^{-6}$cm/sec and one foot of protective cover soil.]

7. In some portion of the landfill, the thickness of final cover does not meet the requirements of Article 8 of Chapter 15.

GEOLOGIC SETTING OF THE SITE:

8. The sediments underlying the landfill consist primarily of shallow Bay deposits comprised of "Bay mud" clays and silty clays. Stiff to very stiff sandy clay/clayey sand was encountered below the Bay Mud extending to a depth of approximately 200 feet below ground surface. According to Cooper Engineers (Cooper, 1983), a moderately permeable sequence of clay, sand, and gravel underlies the stiff clays, beginning at a depth of 200 feet below ground surface. Franciscan bedrock was reported to be at a depth of approximately 300 feet below ground surface (bgs) along the western side of the site and 500 feet bgs along the eastern side of the site as reported by Cooper Engineers (1983). A general geologic cross section of the South Bay, including the site, is shown in Figure 2.

HYDROGEOLOGIC SETTING OF THE SITE:

9. Investigations have shown that the groundwater movement is radially away from the mounded areas. However, the potential flow directions are likely influenced by the presence of the operating leachate collection and recovery system located along a line

approximately 10 feet from the southern border of the mound area. Groundwater flow may also be influenced by the presence of landfill gas barriers installed off site on the Peninsula Landing site, south of the Panhandle, and on the Boardwalk site south of the Mound area.

10. The direction of deeper groundwater flow cannot be established with a high level of certainty because of the relatively discontinuous nature of the water bearing zones in the low permeability clay layer beneath the recent Bay Mud. However, based on a study conducted by Mclaren (McLaren, 1989),"... regional hydrogeologic condition suggest that deeper groundwater moves in an easterly direction toward San Francisco Bay."

11. A comparison of the shallow and deep groundwater levels have indicated the existence of a slightly downward vertical gradient except for well P-1A and P-1B. In October of 1988, an upward gradient was observed for the two aforementioned monitoring wells. However, subsequent studies for these wells showed a downward vertical gradient.

12. Confined aquifer zones of moderate permeability which are the major groundwater sources for the region, are located at a depth of 190 to 200 feet beneath the site. This aquifer zone is an extension of the major artesian basin of the South Bay and Santa Clara Valley and consists chiefly of unconsolidated Quaternary alluvium.

13. The beneficial uses of Belmont slough, and South San Francisco Bay are as follows:

    a. Wildlife habitat
    b. Brackish and salt water marshes
    c. Water contact recreation
    d. Non-water contact water recreation
    e. Commercial and sport fishing
    f. Preservation of rare and endangered species
    g. Esturaine habitat
    h. Fish migration and spawning

14. The present and potential beneficial uses of the deeper groundwater are as follows:
    a. Domestic and municipal water supply
    b. Industrial process supply
    c. Industrial service supply
    d. Agricultural supply

WASTES AND THEIR CLASSIFICATION:

15. Approximately 45 acres of the project site were used for landfill disposal of municipal solid waste and incinerator ash from 1948 to 1970. About 650,000 cubic yards of fill material has been disposed of at the site. The refuse material at the site consisted of

paper, glass, plastic, and minor amounts of wood and rock fragments and incinerator ashes.

MONITORING PROGRAM:

16. There are 10 existing on-site groundwater monitoring wells and 2 off-site wells to the south of the site, near Marine World Parkway. These wells were installed by various consultants in conjunction with the evaluation of groundwater conditions for the entire 85-acre site. Seven wells monitor landfill leachate.

17. An investigation was conducted by LEVIN-FRICKE during the period from August through December 1988 to characterize soil and groundwater quality at the landfill in accordance with the Solid Waste Assessment Test (SWAT) requirements. This investigation concluded that the landfill was leaking low levels of contaminants.

18. The discharger shall initiate a semi-annual monitoring program for the existing monitoring network which consists of 6 leachate wells (P-2A, P-1A, S-1A, S-2, S-5, LW-1), five deep groundwater wells (UGP-1, P-2B, P-1B, MW-1, MW-2), 21 shallow groundwater wells (UPG-2, P-8, P-7, K-1, P-3, K-3, K-4, P-5, P5-1, K-5, MW-3, MW3-1, MW3-2, S-3A,S-4A, P-4, K-2, P-6,), and 4 surface water monitoring points (SW-1, SW-2, SW-3, SW-4) as shown in Figure 1 of the attached discharge monitoring program. The points of compliance for shallow and deep groundwater zones have been identified as those wells which monitor the shallow and the deep groundwater zones beneath the site.

19. Federal Regulations [40 Code of Federal Regulations (CFR) Parts 122, 123, and 124] require specific categories of industrial activities, including landfills, to obtain a NPDES permit for storm water discharges. The State Water Resources Control Board has issued a General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES Permit No. CAS000001). This facility is subject to these requirements. Pursuant to the Stormwater Discharge Program, this facility is required to submit a Notice of Intent for coverage under the General Permit; to prepare and implement a monitoring program; and to submit an annual report. Compliance with the monitoring and reporting requirements of this Order are intended to assure compliance with the requirements of the General Permit.

EXISTING LEACHATE CONTROL SYSTEM:

20. The leachate collection system of the site consists of two trenches. The trenches were excavated to depths of 8 to 13 feet bgs. The approximate locations of the leachate trenches are shown in Figure 3. The leachate collection and recovery system has been

operational in Trench No. 1 since installation. Leachate Trench No. 1 is fitted with an automatic pumping system that periodically pumps leachate from manhole No. 1 to the sanitary sewer as needed to maintain a low level of leachate in the trench. The pumping system for Trench No. 2 is not currently operating because migration of leachate has been mitigated to some extent by the relatively impervious clays at the site.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

21. This site is exempt from the provision of the California Environmental Quality Act (CEQA) pursuant to Section 15308, Title 14 of the California Code of Regulation. However, any subsequent development of the closed landfill may not be exempt from CEQA.

22. Sanitary landfills could potentially impact groundwater if not properly designed maintain and/or operated. Groundwater can also be affected by water that percolates through waste materials and extracts or dissolves substances from it and carries them into the groundwater.

23. The preceding impacts are mitigated or avoided by design measures to control erosion and assure containment of waste and leachate through the use of leachate collection and removal systems.

24. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.

25. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the dischargers, their agents, successors and assigns are to complete closure activities (modifications of clay cap), conduct postclosure maintenance and monitoring pursuant to authority in Title 23, Chapter 15, Section 2581 and California Water Code Division 7 and the following:

A. PROHIBITIONS

1. Wastes shall not be in contact with ponded water.

2. Leachate from wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State or of the United States.

3. Wastes of any origin and type shall not be deposited or stored at this site after the adoption of this Order.

4. The discharger, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

   a. Surface Waters

      1. Floating, suspended, or deposited macroscopic particulate matter or foam.

      2. Bottom deposits or aquatic growth.

      3. Adversely alter temperature, turbidity, or apparent color beyond natural background levels.

      4. Visible, floating, suspended or deposited oil or other products of petroleum origin.

      5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations. [Note: the surface water and shallow groundwater on and in the vicinity of the site are not used for human consumption since they are brackish and /or saline]

   b. Groundwater

      The groundwater shall not be degraded as a result of the waste maintained at the facility.

B. SPECIFICATIONS

1. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer, California registered geologist or certified engineering geologist.

2. The site shall be protected from any washout or erosion of wastes from inundation which could occur as a result of a 100-year 24-hour precipitation event, or as the result of flooding with a return frequency of 100 years.

3. The existing leachate control facility shall be maintained and remain operational as long as leachate is present and it poses a threat to water quality.

4. All conveyance control facilities and hydraulic structures shall be maintained to ensure normal flow of liquid and to prevent hydraulic pressure buildup within the pipeline.

5. The discharger shall assure that the foundation of the site, the refuse fill, and the structures which control leachate, surface drainage, erosion and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

6. The facility's Leachate Collection and Removal System (LCRS) must be capable of creating an inward leachate gradient which shall prevent leachate migration offsite.

7. The existing LCRS shall be inspected monthly or more frequently as necessary, and any accumulated fluid shall be removed.

8. The exterior surfaces (cap) shall be graded to promote lateral runoff of precipitation and to ensure that ponding dose not occur.

9. A detailed survey of the landfill's cap must be made, to assure that construction is in compliance the requirement of Article 8 of Chapter 15.

10. The discharger shall maintain and monitor the waste unit to prevent a statistically significant increase to exist between water quality at the point of compliance as provided in Section 2550.5, Article 5 of Chapter 15.

11. In the event of a release of a constituent of concern beyond the Point of Compliance, the site will begin a Compliance Period pursuant to Section 2550.6(a). During the Compliance Period, the discharger shall perform an Evaluation Monitoring Program and a Corrective Action Program.

12. The discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any Discharge Monitoring Program issued by the Executive Officer.

13. Methane and other landfill gases shall be adequately vented, removed from the landfill units, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone in accordance with applicable regulatory requirements.

14. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result

of this waste discharge or related operations during the active life and post-closure maintenance period.

15. The discharger shall maintain all devices or designed features, installed in accordance with this Order such that they continue to operate as intended without interruption as provided for by the performance standards adopted by the California Integrated Waste Management Board.

16. The discharger shall provide and maintain a minimum of two permanent surveyed monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the post-closure and maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer.

17. The Regional Board shall be notified immediately of any failure occurring in the waste management unit. Any failure which threatens the integrity of containment features or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer

18. The discharger shall comply with all applicable provisions of Chapter 15 that are not specifically referred to in this Order.

19. The discharger must reconstruct the final cover to meet the requirements of CCR Title 23.

20. The discharger shall maintain the facility so as to prevent a statistically significant increase in water quality parameters at the point of compliance as provided in Section 2550.5. According to Sections 2550.2 and 2550.3 of Chapter 15, the discharger is also required to establish a Water Quality Protection Standards (WQPS) and a list of Constituents of Concern (COCs) . The discharger shall meet the following schedule in implementing the requirements of this Provision. The discharger shall monitor a minimum of four quarters (one year) for the parameters listed in Table 2. Based upon the results of the monitoring, the discharger shall propose a revised list of COC's and monitoring parameters in accordance with the requirements of this Order and Article 5 of Chapter 15. Within 15 months following the adoption of this Order, the discharger shall submit a monitoring program to include a statistical analysis method to the Board for approval by the Executive Officer. A non statistical method (e.g., concentration trend analysis and comparison to practical quantitation limits) will be utilized to evaluate the significance of groundwater data until the proposed statistical methods are approved by the Board.

C. PROVISIONS

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions of this Order, immediately upon adoption of this Order or as provided below.

2. The discharger shall submit a detailed **Post Earthquake Inspection and Corrective Action Plan** acceptable to the Executive Officer to be implemented in the event of any earthquake generating ground shaking of Richter Magnitude 7 or greater at or within 30 miles of the landfill. The report shall describe the containment features, and ground water monitoring and leachate control facilities potentially impacted by the static and seismic deformations of the landfill. The plan shall provide for reporting results of the post earthquake inspection to the Board within 72 hours of the occurrence of the earthquake. Immediately after an earthquake event causing damage to the landfill structures, the corrective action plan shall be implemented and this Board shall be notified of any damage.

   REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

3. The discharger shall submit a **Contingency Plan** to be instituted in the event of a leak or spill from the leachate facilities. The discharger shall give immediate notification to the San Francisco Bay Regional Water Quality Control Board, the Local Enforcement Agency (LEA), and the California Department of Toxic Substance Control. The discharger shall initiate its corrective action plan to stop and contain the migration of pollutants from the site.

   REPORT DUE DATE: WITHIN THREE MONTHS OF ADOPTION OF THIS ORDER

4. The discharger shall file with the Regional Board Discharge Monitoring Reports prepared under the supervision of a registered civil engineer or registered geologist performed according to any **Discharge Monitoring Program** issued by the Executive Officer.

5. The reports pursuant to these Provisions shall be prepared under the supervision of a registered engineer or certified engineering geologist.

6. The discharger shall comply with all applicable items of the attached Discharge Monitoring Program, or any amendments thereafter.

7. In the event of any change in control or ownership of land or waste discharge

facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation of this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. (Refer to Standard Provisions referenced above). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contract with the Board and a statement. The statement shall comply with the signatory paragraph described in Standard Provisions and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

8. The discharger shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

NOTIFICATION: IMMEDIATELY
REPORT DUE DATE: WITHIN 7 DAYS AFTER THE INCIDENT

9. The discharger shall prepare, implement and submit a Storm Water Pollution Prevention Plan in accordance with requirements specified in State Water Resources Control Board General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES Permit No. CAS000001).

REPORT DUE DATE: April 1, 1995

10. The discharger must reconstruct those portions of the landfill's cap which do not meet the requirements of Article 8, Section 2581 of Chapter 15. The discharge is required to submit a complete and comprehensive construction plan with 60 days of the adaption of this Order.

11. This order requires the discharger to initiate the semi-annual self monitoring program as defined in the attached Parts A & B.

12. The discharger shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.

13. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which may arise in the future as

result of this waste discharge or related operations.

14. The discharger shall permit the Board or its authorized representative, upon presentation of credentials:

    a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.

    b. Access to copy any records required to be kept under the terms and conditions of this Order.

    c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order or by any other California State Agency.

    d. Sampling of any discharge or ground water governed by this Order.

15. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.

16. This Order is subject to Board review and updating, as necessary, to comply with changing State or Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.

17. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications and Provisions of this Order, shall also be provided to the Environmental Health Services Division of San Matoe County.

18. The discharger shall analyze groundwater, leachate and surface water samples for the parameters as presented in Table 2 of the Discharge Monitoring Program for the Parkwood 101/westport landfill.

19. **Task 1: Documentation of Installation of Additional Groundwater Monitoring Wells**
    Completion Date: March 1, 1995
    The discharger is required to submit a technical report acceptable to the Executive Officer that documents that the monitoring wells (MW3-1, MW3-2, P5-1, LW-1) listed in Table No. 1 in Part B of the attached Self Monitoring Program have been installed.

20. This Order rescinds Orders No. 76-77 and 77-134.

I, Steven R. Ritchie Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, December 14, 1994.

Steven R. Ritchie
Executive Officer

Attachments:

1. Figures:
   1. Site Location Map
   2. General Geologic X-Section
   3. Leachate Trenches Location Map
2. Discharge Monitoring Program

References:

Cooper Engineers (1983). Geotechnical and Waste Management Engineering Studies for Approval of Concept Plan, Lands of Parkwood 101 Associates, Redwood City, California.

Levin -Fricke, Inc. (1989). Solid Waste Assessment Test Investigation Report, Westport Landfill Site, Redwood city, California. November.

McLaren Engineers (1989). Draft Supplemental Environmental Impact Report, Westport Development Project. October.

United Soil Engineering INC. (1994). Clay Cap Thickness Investigation, Westport Office Park, Marine World Parkway, Redwood City, California.

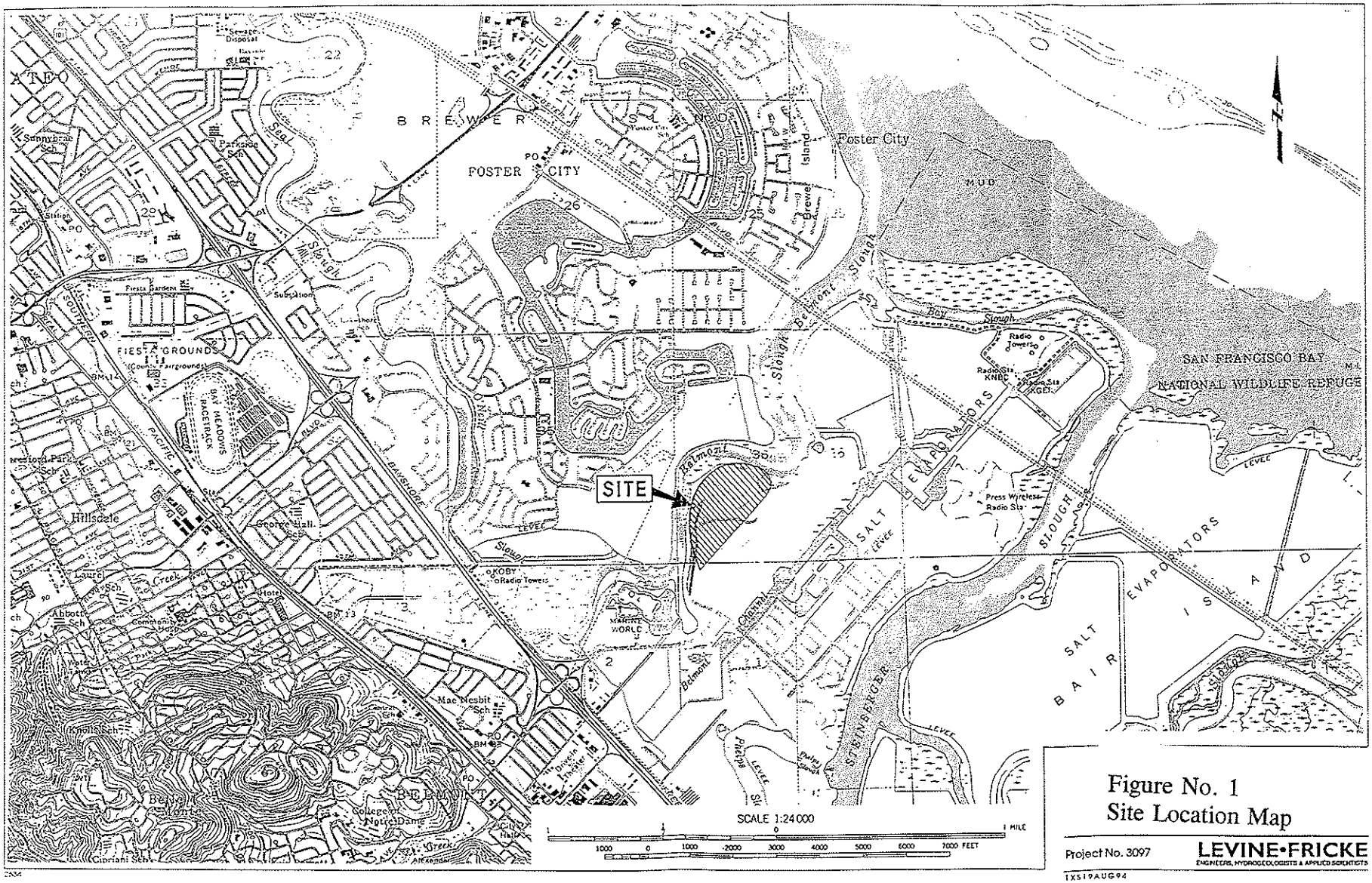

Figure No. 1
Site Location Map

Project No. 3097

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

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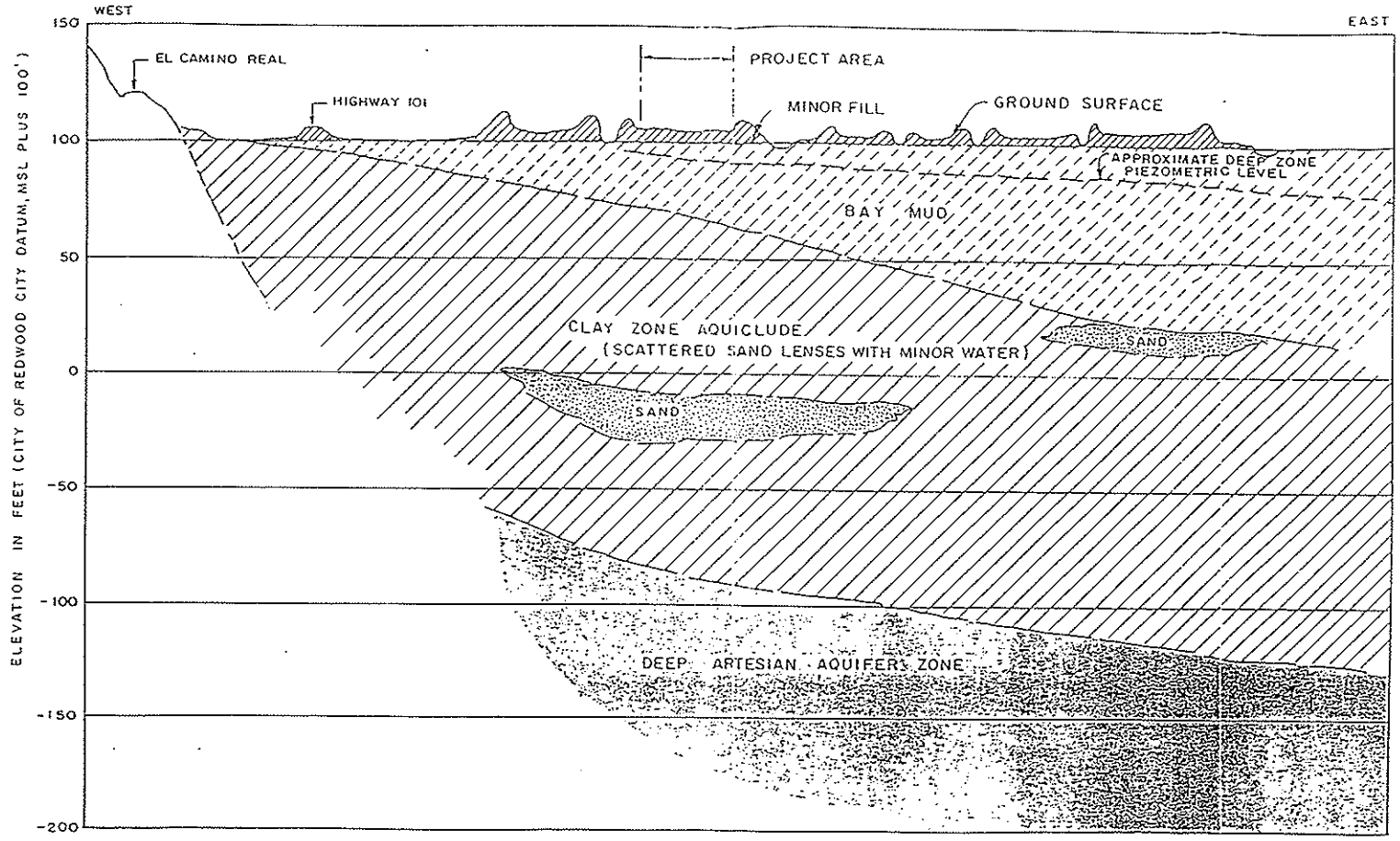

GENERAL GEOLOGIC CROSS SECTION

SCALES : HORIZ :1" = 2000', VERT. 1"=50'

Figure No. 2
General Geologic S-Section

LOUPER-CLARK & ASSOCIATES
FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

By WEL/MB Date 7/30/71
Checked By _____ Date _____
Job Number 1673 A-3 Name Redwood 101, STD Location Redwood City
By _____ Date _____
By _____ Date _____

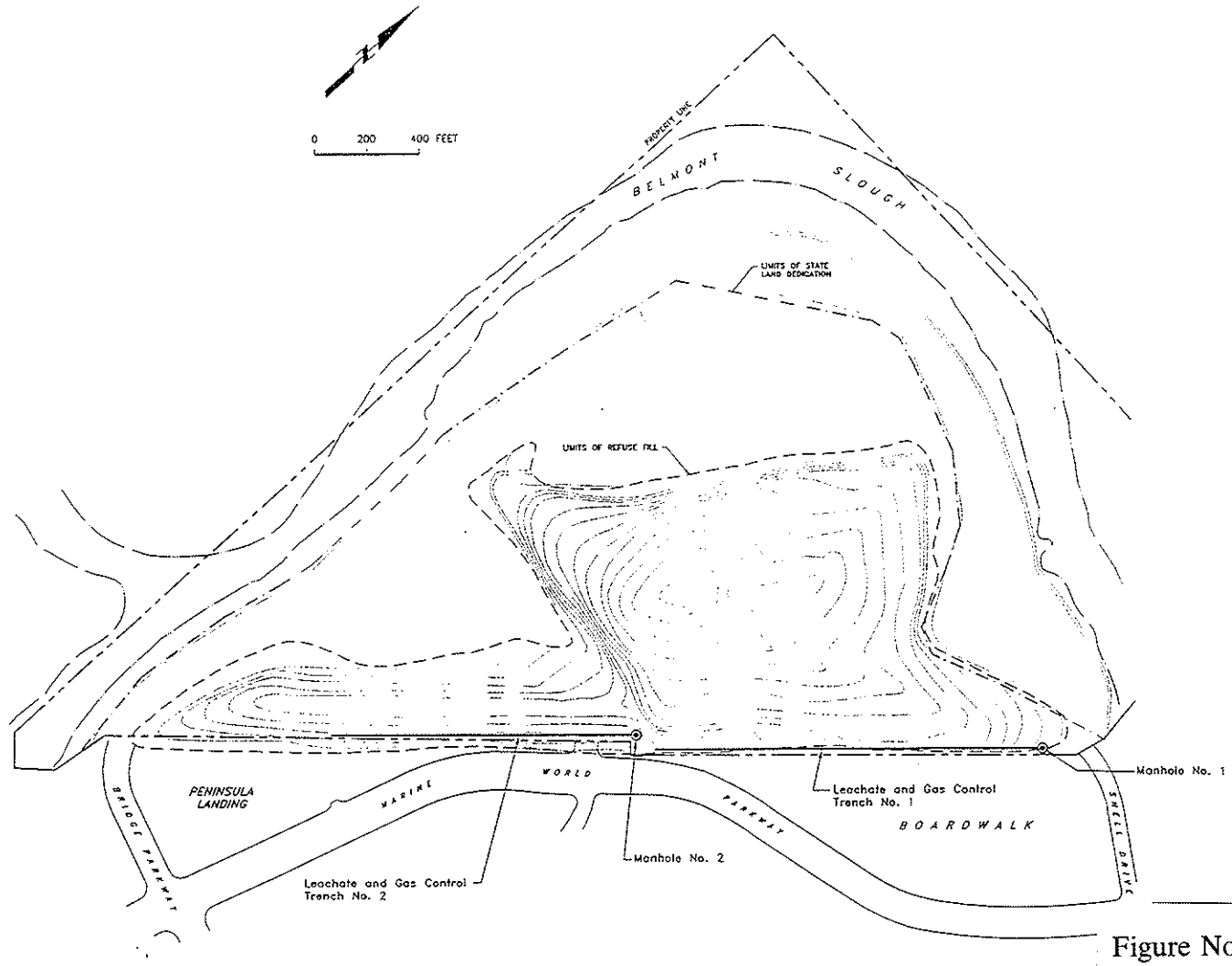

Figure No. 3
Leachate Trenches Location Map

Project No. 3097

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DISCHARGE MONITORING PROGRAM

FOR

WESTPORT INVESTMENTS INC.
PARKWOOD 101 CLOSED LANDFILL
REDWOOD CITY, SAN MATEO COUNTY

ORDER NO. 94-181

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16. This Discharge Monitoring Program is issued in accordance with Provision C.4 of Regional Board Order No. 94-181.

The principal purposes of a discharge monitoring program are:

(1) to document compliance with waste discharge requirements and prohibitions established by the Board,

(2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge,

(3) to develop or assist in the development of standards of performance, and toxicity standards,

(4) to assist the discharger in complying with the requirements of Article 5, Chapter 15 as revised July 1, 1991.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and he/she or their authorized representative shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. Receiving waters refers to any surface water which actually or potentially receives surface or groundwater which pass over, through, or under waste materials or contaminated soils. In this case, the groundwater beneath and adjacent to the landfill

areas and the surface runoff from the site are considered receiving waters.

3. Standard observations refer to:

   a. Receiving Waters

      1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
      2) Discoloration and turbidity: description of color, source, and size of affected area.
      3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
      4) Evidence of beneficial use: presence of water associated wildlife.
      5) Flow rate.
      6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

   b. Perimeter of the waste management unit

      1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on a map.)
      2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
      3) Evidence of erosion and/or daylighted refuse.

   c. The waste management unit

      1) Evidence of ponded water at any point on the waste management facility.
      2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source
      3) Evidence of erosion and/or daylighted refuse.
      4) Standard Analysis (SA) and measurements are listed on Table 2 (attached).

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analyses, and observations in the following media:

1. Groundwater per Section 2550.7(b)
2. Surface water per Section 2550.7(c) and per the general requirements specified in Section 2550.7(e) of Article 5, Chapter 15 and
3. Vadose zone per Section 2550.7(d). This item is neither feasible nor applicable for this landfill.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.

2. Date and time of sampling.

3. Date and time of analyses, and name of the personal performing the analyses.

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used where applicable; or reference to standard EPA methods.

5. Calculation of results.

6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. Written detection monitoring reports shall be filed by the 15th day of the month following the report period. In addition, an annual report shall be filed as indicated in F.3 below. The reports shall be comprised of the following:

   a. Letter of Transmittal

      A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge, the report is true, complete, and correct.

   b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

1) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations. A statistical evaluation of the water quality monitoring data for all groundwater compliance points (As required under Part B (Table 1)).

2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field PH, temperature, and conductivity during purging, calibration of the field equipment, results of the PH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.

3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualification of the person actually taking the samples, and any other observations.

c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

d. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.

1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and approval by the Executive Officer prior to use.

2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; and explanation for any recovery rate that is outside of the normal range specified by the EPA for that method; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name of the person(s) performing the analyses.

e. An evaluation of the effectiveness of the leachate monitoring or control facilities,

which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal methods utilized.

f. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.

g. The quantity and types of wastes disposed of during the past quarter, and the locations of the disposal operations.

2. CONTINGENCY REPORTING

a. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:

1) a map showing the location(s) of discharge;
2) approximate flow rate;
3) nature of effects; i.e., all pertinent observations and analyses; and
4) corrective measures underway or proposed.

b. A report shall be made in writing to the Board within seven days of determining that a statistically significant increase occurred at a point of compliance (between a down gradient sample and a WQPS). Notification shall indicate what WQPS(s) has/have been exceeded. The discharger shall immediately re-sample at the compliance point where this difference has been found and reanalyze.

c. If re-sampling and analysis confirms the earlier finding of a statistically significant increase between monitoring results and WQPS(s), the discharger must submit to the Board an amended Report of Waste Discharge as specified in Section 2550.8(k)(5) for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of Section 2550.9 of Chapter 15.

d. Within 180 days of determining statistically significant evidence of a release, submit to the regional board an engineering feasibility study for a Corrective Action Program (CAP) necessary to meet the requirements of Section 2550.10. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

3. REPORTING

By January 31 of each year, the discharger shall submit an annual report to the Board

covering the previous calendar year. This report shall contain:

a. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a 5-1/4" or 3-1/2" computer data disk, MS-DOS ASCII format, tabulating the year's data.

b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.

c. A map showing the area, if any, in which filling has been completed during the previous calendar year. [Not applicable for this site]

d. A written summary of the groundwater analyses indicating any change in the quality of the groundwater

e. An evaluation of the effectiveness of the leachate monitoring/control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal methods utilized.

4. WELL LOGS

A boring log and a monitoring well construction log shall be submitted for each new sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

PART B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. ON-SITE OBSERVATIONS - Report Semi-annually

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 thru V-'n'	Located on the waste disposal area as deli-neated by a 500 foot grid network.	Standard observations for the waste management unit.	Quarterly
P-1 thru P-'n' (perim-eter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	Quarterly

A map showing visual and perimeter compliance points (V and P stations) shall be submitted by the discharger in the semi-annually monitoring report.

B. GROUNDWATER, LEACHATE AND SURFACE WATER MONITORING

Report Semi-annually

Groundwater, surface water, leachate and seepage monitoring points shall be monitored as outlined below on Table 1 and Table 2 and shown on Figure 1 (Attached).

During the wet season (October through April), estimate or calculate the volume of storm water discharge from each outfall and collect and analyze samples of storm water discharge from two storm events during each wet season which produce

significant storm water discharge as defined in State Water Resources Control Board Order No. 92-12-DWQ (General Permit for Storm Water Discharges). The samples must be analyzed for:

- pH, total suspended solids (TSS), specific conductance, and total organic carbon (TOC).

- Toxic chemicals and other pollutants that are likely to be present in storm water discharge in significant quantities.

TABLE 1

Monitoring Points For Each Monitoring Medium:

Monitoring Media	**Points of Compliance**	**Upgradient Wells**
Surface Water	SW1, SW2, SW3	SW1
Groundwater	Deep groundwater Monitoring Wells: P-2B, P-1B, MW-1, MW-2.	UPG-1
	Shallow Groundwater Monitoring Wells: P-8, P-7, K-1, P-3, K-3,* K-4, P-5, P5-1, K-5, MW-3, MW3-1, MW3-2, S-3A, S-4A, P-4, K-2, P-6	UGP-2
Leachate	*P-2A, P-1A, LW-1, S-1A, S-2, S-5	Not Applicable

* Leachate wells are not considered compliance points
* K-4 is not a compliance groundwater monitoring well

C. FACILITIES MONITORING

The discharger shall inspect all facilities to ensure proper and safe operation once per quarter and report quarterly. The facilities to be monitored shall include, but not be limited to:

a. Leachate collection and removal systems;
b. Surface water monitroing points;
c. Shallow and deep groundwater monitoring wells;
d. Perimeter diversion channels;
e. Leachate wells;

I, Steven Ritchie Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 94-181.
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.

Steven R. Ritchie
Executive Officer

Date Ordered: December 14, 1994
Attachments:
Figure 1 - Monitoring Points Location map
Table 2 - Discharge Monitoring Plan

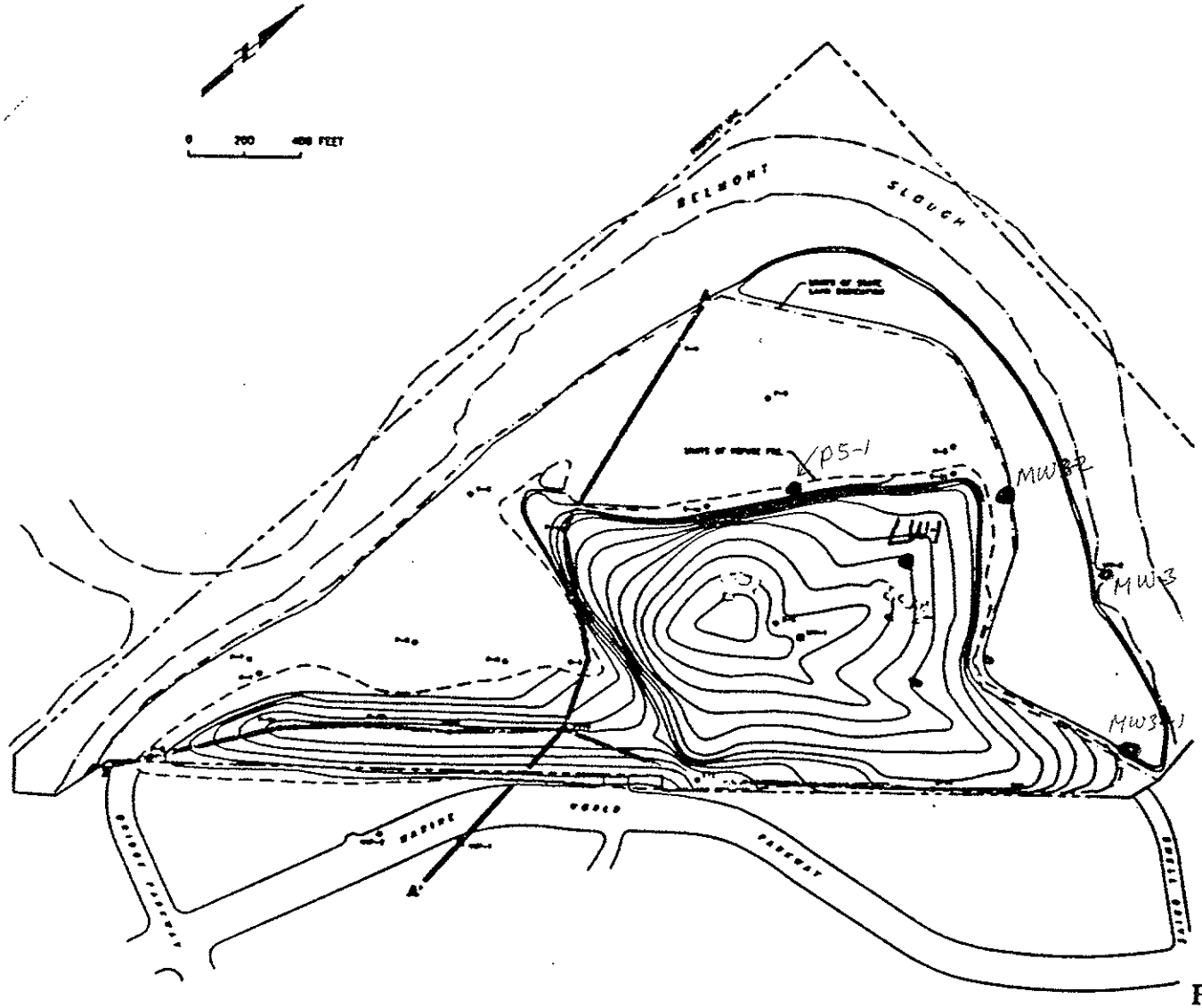

Figure 1
Monitoring Points Location Map

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Table 2 - Discharge Monitoring Plan, List of Analytical Parameters

Parameters	Method (USEPA)	Frequency	Reference
Leachate Level Measurements	Field	Semi-annual	1
Water Level Measurements	Field	Semi-annual	1
Temperature Measurements	Field	Semi-annual	1
Electrical Conductivity	Field	Semi-annual	3
pH	Field	Semi-annual	3
Total Organic Carbon	415.1	Semi-annual	2
Total Nitrogen (the sum of Nitrate Nitrogen and Kjeldahl Nitrogen)	351.2	Semi-annual	2
Turbidity	Field	Semi-annual	1 ,4
Alkalinity, bicarbonate	310.1	Semi-annual	2
Alkalinity, hydroxide	310.1	Semi-annual	2
Biological Oxygen Demand	410.4	Semi-annual	4
Amonia as N (nonionized)	350.1	Semi-annual	4
Chemical Oxygen Demand	410.2	Semi-annaul	2 ,4
Total Dissolved Solids	160.1	Semi-annual	2 ,4
Total Suspended Solids	160.2	Semi-annual	2 ,4
Volatile Organic Compounds (Appendix I)	8260 w/ capillary column	Once in 5 yrs	3
Volatile Organic Compounds (Appendix I&II)	8260/w capillary column	Once in 5 yrs	3
Appendix II Semi-volatile Organics Compounds	8270	Once in 5 yrs	3
Organophosphorus Pesticides & PCB's	8140 w/ capillary column	Once in 5 yrs	3

Chlorinated Herbicides	8150 w/ capillary column	Once in 5 yr	3
Arsenic	7061	Semi-annual	3
Cadmium	7131	Semi-annual	3
Chromium	6010	Semi-annual	3
Copper	6010	Semi-annual	3
Lead	7421	Semi-annual	3
Mercury	7470	Semi-annual	3
Nickel	6010	Semi-anual	3
Selenium	7740	Semi-annual	3
Silver	6010	Semi-annual	3
Zinc	6010	Semi-annual	3

1. Not Applicable
2. Methods for Chemical Analysis of Water and Wastes, EPA600/4/79/029, revised March 1983
3. EPA SW-846
4. Only for surface water monitoring